

REMARKS

Claims 1-35 are pending with claims 1, 21, 30, 33 and 34 being the independent claims. Claims 14 and 16 have been canceled herein without prejudice. The specification and drawings have been amended herein in response to various formal objections. No new matter was added.

Objections to the Specification and Drawings

In the Official Action, dated May 20, 2005, the drawings were objected to for using the reference numerals 900 and 910 twice. In the replace drawings submitted herewith, reference 900 of Fig. 9A and reference 910 of Fig. 9A have been renumbered as reference numbers 901 and 911, respectively.

The drawings were objected to for including reference numerals not mentioned in the written description. The specification has been amended herein to include appropriate references to elements 390, 635 and 844.

The specification was objected to for referring to labels 110, 111 and 135 nowhere found in the drawings. The specification has been amended to correct the inappropriate inclusion of labels nowhere found in the drawings.

The specification was further objected to for referring to input space IS in connection with Fig. 4D. In the replacement drawings submitted herewith, Fig. 4D includes the appropriate reference to input space IS.

Accordingly, the objections to the specification and drawings are believed moot. Reconsideration and withdrawal of the objections to the specification and drawings is thus respectfully requested.

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Amendments to the Drawings

The attached sheet(s) of drawings includes changes to Fig(s) 4D and 9A. The sheet(s), which includes Fig(s) 4A, 4B, 4C, 4D, 9A, replaces the original sheet(s) including Fig(s) 4A, 4B, 4C, 4D, 9A.

Attachment: Replacement Sheet(s)

Rejections to the Claims

Claims 1-20

In the Official Action, dated May 20, 2005, claims 1-20 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,918,223 (Blum) in view of Rabiner and Juang's Fundamentals of Speech Recognition (Rabiner).

As is a well known proposition, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." MPEP 2143.01.

Here, Rabiner not only does not contain a teaching, suggest, or motivation to combine with Blum (or vice versa), Rabiner is directed to a wholly separate field, namely speech recognition, not media entity spectral feature vector formation. Rabiner is merely understood to disclose:

The quantity H of Eq. 8.11 can be considered as the average information of the source when it puts out a word w . Equivalently, a source of entropy H is one that has as much information content as a source which puts out words equiprobably from a vocabulary of size 2^H . p. 449, 3rd paragraph

However, Applicants respectfully submit that there is no teaching or suggestion that this general quantity H could or should be applied to media entities. Applicants understand Rabiner to disclose that a quantity H can be calculated for speech. Applicants regard such disclosure to be inadequate to suggest the claimed method of claim 1, which requires process steps for spectral feature vector formation that are nowhere taught or suggested in the art.

Applicants respectfully submit that the outstanding rejection is classic hindsight reconstruction of the invention. Armed with Applicants invention (which provides a

particular algorithm for forming spectral feature vectors for media entities), the Action combines a publication with an off-reference to a measure of entropy H for speech recognition purposes, and then concludes without support that it would have been desirable to add the entropy measure H to a method of forming feature vectors for media entities (not speech). Accordingly, Applicants believe that the entropy measure H of Rabiner, in cookie cutter fashion, is cited merely to provide the missing step(s) of the invention, without consideration for adequate motivation within the references themselves for forming the claimed combination. Simply put, Rabiner includes no teaching or suggestion to include the entropy measure H alongside a critical band filtering process in forming spectral feature vectors. Moreover, Rabiner certainly includes no teaching or suggestion of performing a first derivative on the data that results from a combination of a critical band filtering process and a entropy calculation, as recited in claim 1.

Accordingly, Applicants respectfully submit that, without proper motivation to combine Rabiner with Blum, or vice versa, a prima facie case of obviousness has not been made. Reconsideration and withdrawal of the rejections to claims 1-20 under 35 U.S.C. § 103(a) is thus earnestly requested.

Claims 21-30

In the Official Action, claims 21-25, 27 and 29 were rejected under 35 U.S.C. § 102 as allegedly anticipated by Blum.

The Blum reference is understood by Applicants in great detail, and Blum is understood to disclose *only* digital signal processing (DSP) techniques. Thus, Blum cannot be said to teach or suggest generating a plurality of spectral properties vectors for media entities, wherein each spectral properties vector includes said at least one spectral properties class

(assigned by a human) and at least one spectral properties characteristic based on digital signal processing (performed by computer). It is the marriage of (A) acoustical, or perceptual, analysis and (B) DSP processing that is at the heart of Applicants' invention, as claimed. Blum discloses only DSP processing. Withdrawal of the rejection to claim 21 is thus respectfully requested.

Claims 30-33

In the Official Action, claims 30-33 were rejected under 35 U.S.C. § 102 as allegedly anticipated by U.S. Patent No. 6,539,395 (Gjerdingen).

The Gjerdingen reference is relied upon in the Official Action for allegedly disclosing claims 30 and 33. However, Applicants respectfully submit that the present invention, as recited in claims 30 and 33, requires a classification chain data structure, wherein each vector of the chain includes data representative of:

- spectral properties class(es) as classified by humans; and
- spectral properties characteristics as determined by digital signal processing.

Gjerdingen, in contrast is understood to disclose two different and distinct embodiments. In the first passage relied upon in the Official Action, it states:

An ensemble vector, wherein the ensemble vector depends upon an experts listener's response to question regarding a music sample indicating whether the music sample includes a female solo, male solo, female duet, male duet, mixed duet, female group, male group or instrumental. Col. 3, lines 50-54

However, this portion of Gjerdingen is understood by Applicants merely to disclose an embodiment in which an ensemble vector includes *only perceptual data* in the vector, i.e., human classifications. Then, the Official Action refers to the following passage:

Data may be collected as DSP data 403B using DSP techniques. DSP techniques includes analyzing digitized audio files containing music into a set

of feature vectors which can be used to characterize and compare music. This, an audio file for any music is transformed into a set of number (feature vectors) which describes the qualities of the music. These numbers are constructed so that they represent the important or relevant features. Col. 9, lines 32-39

However, this portion of Gjerdingen is understood by Applicants to disclose and embodiment of a feature vector having *only DSP data* inside a feature vector. Thus, nowhere can Gjerdingen be said to teach or suggest an embodiment of a feature vector including both perceptual qualities and DSP analysis, as recited in claims 30 and 33. Withdrawal of the rejection to claims 30 and 33 is thus respectfully requested.

Claim 34

In the Official Action, with respect to claim 34, the Official Action states in blanket fashion “regarding claim 34, see the preceding argument with respect to claims 1, 17, 30 and 31. The combination of Blum and Gjerdingen teach these features of classifying data.”

Since, as described above, nowhere can Blum and/or Gjerdingen be said to teach or suggest Applicants’ invention, as recited in claims 1, 21, 30 and 33, Applicants respectfully submit that Blum and Gjerdingen, whether taken alone or in combination, fails to teach or suggest the construction phase and classification phase as a whole, in the manner recited by claim 34. Withdrawal of the rejection to claim 34 is respectfully requested.

Claims 2-19, 22-29, 31-32 and 35 depend from claims 1, 21, 30 and 34, respectively, and are believed allowable for the same reasons. Withdrawal of the substantive rejections to claims 1-35 is thus earnestly solicited.

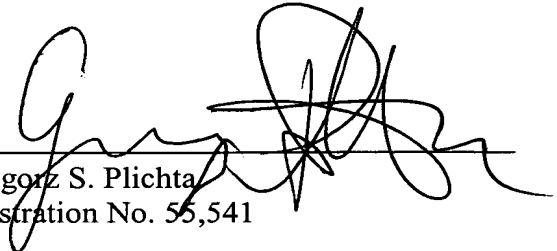
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CONCLUSION

Accordingly, Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that Claims 1-35 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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